

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 09/655134
Filing Date: September 5, 2000
Title: METHOD AND APPARATUS FOR MOLDING A PLATE

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REMARKS

Applicant has reviewed and considered the Office Action mailed on December 31, 2002, and the references cited therewith.

Claims 10, 22 and 35 are amended, no claims are canceled or are added; as a result, claims 10 through 37 are now pending in this application.

Specification

Claims 22 and 35 were amended to substitute the name of the generic material for the trademark Teflon which was previously used to describe that material. The amendment has not been made in response to a rejection of the claims.

§102 Rejection of the Claims

Claims 10, 11, 16 – 21, 26 – 28, and 30 -34 were rejected under 35 USC § 102(b) as being anticipated by Osada et al_ (U.S. 5,507, 633).

The cited Osada et al patent relates to apparatus for molding resin to encapsulate an electronic part using a transfer molding process. An electronic part such as a lead frame is placed between upper and lower mold portions. In one embodiment of Osada et al, resin tablets are separately melted in a series of pots and the melted resin is injected into through multiple resin charging paths into cavities formed between the closed upper and lower molds. In another embodiment, the resin tablet is melted in separate cavities of the mold and the melted resin is then forced by a plunger into the molding cavities in which the electronic part and leads await encapsulation by the resin.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991).

Amended claim 10 (and dependent claims 11, and 16 – 21) and amended claim 26 (and dependent claims 27 -28 and 30 – 34) recite, for example: "compressing the preform material into a molded plate." In contrast, Osada et al describes a machine in which resin is first melted and then injected into a mold cavity where it is applied electronic parts and their associated leads

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which are located in the mold cavities. Thus, Osada et al does not teach each element of claim 10. Applicant reserves the right to point out additional portions of the claims that are not to be found in the cited Osada patent.

Reconsideration and allowance of claims 10 -11, 16 -21, 26 -28 and 30 - 34 is respectfully requested.

§103 Rejection of the Claims

Claims 12-15, 22-25, 29, and 35-37 were rejected under 35 USC § 103(a) as being unpatentable over Osada ('633) in view of Swanson (U.S. 4,751,029).

The cited Swanson patent is a system for low pressure molding of elongated ribbon-like products such as automotive side moldings or bumper rub strips from thermoplastic materials. The mold is charged with plastic material at low pressure and then closed. The material is added to the molds by flowing it from a nozzle into a moving mold. It is not injected into the mold as in Osada. The nozzle structure is varied to provide for products having various widths. Once the mold is closed, there is apparently little flowage of the plastic across the molding surfaces. Because the molding is done at low pressure, "...the molds need not be of steel nor are thick wall structures necessary to withstand the mounting pressures. The patent states that aluminum alloys are quite satisfactory for the molds. "(col. 5, lines 53 - 55.)

The Office Action states that Swanson is relied upon as showing apparatus for molding thermoplastic material, comprising a mold made of steel, a mold cavity having a Teflon dam for wear resistance, and a plurality of thermal sensors for automatically controlling the heating of the mold plates.

The Office Action has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Office Action must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by

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combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined only if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

The present Office Action fails to establish a *prima facie* case of obviousness. The Office Action does not even attempt to explain how there is here "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." In the only paragraph of the Office Action which purports to explain how the cited patents are proposed to be combined, only a conclusory statement is made as to why they ought to be combined:

"It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to modify Osada et al by providing a plurality of sensors and a mold cavity having mold parts made of steel and Teflon created as taught by Swanson, because the thermal sensors would facilitate the temperature of the mold plate, while the mold parts made of steel is to improve thermal conductivity and the Teflon coating is to reduce friction and improve wear resistant to the mold parts. (Final paragraph at page 3 of Office Action)"

The Office Action further failed to state a *prima facie* case of obviousness because the cited patents which were combined to make the rejection do not show the features for which they were cited. The reference or references when combined must teach or suggest all the claim elements. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

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For example, claim 12 recites:

“(temperature sensors are embedded in the first and second platens adjacent to at least one of the of the heating elements for providing a measurement of the platen temperature to temperature control circuitry driving heating elements adjacent to the temperature sensors.)”
(Applicant's claim 12.)

In contrast, the Office Action concedes that “Osada fails to disclose a temperature sensor to control the heating temperature of the mold plates.” The Office Action's combination of the cited Osada et al and Swanson patents do not teach or suggest thermal sensors as recited in claim 12. Although Swanson is contended in the Office Action to describe “a plurality of thermal sensors for automatically controlling the heating of the mold plates (col. 8, lines 47 – 52)” the cited material in Swanson actually refers to control of heating which is carried out in a heating station 21 which is external to the mold platens. Similarly, Applicant is aware of nothing in the Swanson patent that suggests that the heating sensors referred to are embedded in the platens of the mold “adjacent to at least one of the heating elements” as claim 12 requires. Claims 13 through 15 contain the same temperature sensor as claim 12 and are patentable for the same reason. Reconsideration and allowance of claims 12 – 15 is respectfully requested.

The Office Action's combination of the cited Osada et al and Swanson patents do not teach or suggest “forming the first and second cavity portions from tool steel covered with Teflon” as recited in claim 22. The Office Action concedes that Osada fails to disclose “a portion of the mold cavity are formed from steel coated with Teflon.” Although Swanson is cited in the Office Action for its description of “a mold cavity having a dam (38) made of Teflon (col. 6, lines 22 -24 for wear resistant,” the cited material in Swanson actually refers to providing only the peripheral dam portion of an aluminum mold formed of Teflon material. Although Swanson refers to conventional molds as being formed of steel (col. 5, lines 53 -55), it states that due to its low pressure molding technique, the molds are formed of aluminum alloy rather than “steel covered with Teflon.” Reconsideration and allowance of claim 22 is respectfully requested.

The Office Action's combination of the cited Osada et al and Swanson patents do not teach or suggest, for example the “parting line gap” features of claim 23 – 25. Nor do they teach or suggest the molding pressure ranges of claim 26 or its dependent claims, and claims 29, and 35 - 37. Contrary to MPEP, 707.07(d), the Office Action did not attempt to show, for example,

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that the "parting line gap" feature of claim 23 is shown or suggested in either Osada et al or Swanson, taken alone or in combination. Nor does it show that the molding pressure ranges of claim 26 are shown or suggested in either Osada et al or Swanson, taken alone or in combination. Reconsideration and allowance of claims 23 - 25, 29 and 35 - 37 is respectfully requested.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants attorney ((612) 373-6970) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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I hereby certify that this paper is being transmitted by facsimile (FAX NO. 703-872-9310) to the U.S. Patent and Trademark Office on March 18, 2003.

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